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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/759,156	01/20/2004	Makoto Taniguchi	118405	6998
25944	7590	11/02/2005	EXAMINER	
OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320			GONZALEZ, JULIO C	
			ART UNIT	PAPER NUMBER
			2834	

DATE MAILED: 11/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/759,156

Applicant(s)

TANIGUCHI, MAKOTO

Examiner

Julio C. Gonzalez

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 14 October 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11 is/are allowed.
- 6) ☒ Claim(s) 1,3 and 6 is/are rejected.
- 7) ☐ Claim(s) 2,4,5 and 7-10 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Claim Objections***

Claim 11 is objected to because of the following informalities: The formula defines the element “K2”, however, such element is missing from the formula. It may seem as if the formula being disclosed is the formula found in page 8 of the specifications. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka et al (US 4,977,508) in view of Sugimoto (US 4,435,987) and Klimo (US 3,887,855).

Tanaka et al discloses a generator 5 for a vehicle having a rotor, stator 5a, field coil 5b, field current switching element 32 (see figure 9; column 5, lines 40-44).

Also, Tanaka et al discloses a field current detecting means and affecting the torque of the system based on the field current (column 53 – column 4, line 8).

However, Tanaka et al does not disclose that torque is calculated using the output current and a rpm speed.

On the other hand, Sugimoto discloses for the purpose of correcting efficiently a torque detected by a generator that an armature current means and rotation speed means detect values and such values are used for calculating a torque calculation (column 2, lines 56-67).

Although Tanaka et al and Sugimoto do not disclose explicitly calculating a torque value using the field current, Klimo on the other hand, discloses for the purpose of preventing efficiently speed and torque limits to be exceeded that it is well known in the art to calculate a certain torque by using the field current and armature current (column 4, lines 54-59).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design a torque unit as disclosed by Tanaka et al and to modify the invention by computing a torque using the armature current for the purpose of correcting efficiently a torque detected by a generator as disclosed by Sugimoto and to disclose explicitly using the field and armature current to compute a torque discloses for the purpose of preventing efficiently speed and torque limits to be exceeded as taught by Klimo.

3. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka et al, Sugimoto and Klimo as applied to claim 1 above, and further in view of Mashino (US 4,754,212).

The combined apparatus discloses all of the elements above. However, the combined apparatus does not disclose that the field current switch is a mosfet.

On the other hand, Mashino discloses for the purpose of reducing radio noises that mosfet 101 is used as a switch for turning on/off the current supplied to field winding 12 (see figure 1).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design the combined apparatus as disclosed above and to modify the invention by using a mosfet as a switch for the purpose of reducing radio noises as disclosed by Mashino.

4. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka et al, Sugimoto and Klimo as applied to claim 1 above, and further in view of Taniguchi et al (US 6,456,048).

The combined apparatus discloses all of the elements above. However, the combined apparatus does not disclose that the rotation speed detecting means measures the rpm based on a voltage of the armature winding.

On the other hand, Taniguchi et al discloses for the purpose of manufacturing a less expensive alternator that the rotation speed can be measured from a base frequency of the armature winding's voltage (see claims 14, 16).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design the combined apparatus as disclosed above and to modify the invention by detecting the rpm using the voltage of the armature winding.

***Allowable Subject Matter***

5. Claims 2, 4, 5, 7, 8, 9, 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. Claim 11 is allowed, pending the correction of the objection described under claim objections.

***Response to Arguments***

7. Applicant's arguments filed 10/14/05 have been fully considered but they are not persuasive.

Tanaka et al teaches that it is well known in the art that the torque is directly affected by the field current (column 5, lines 26-29) and further uses a calculating device 6 for calculating the torque.

Further more, Klimo discloses *explicitly* calculating a torque based on a field current (column 4, lines 53-61) for obtaining a “desired speed-torque relationship” from an electrical machine (column 1, line 49). With regards that Klimo does not disclose calculating a torque of a generator, it is well known that generators and motors are very similar devices, in fact, a motor can function as a generator and vice-versa (see references disclosed in 892 Form).

8. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

9. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the base reference (Tanaka et al) provides a teaching for calculating a torque and the field current affecting the torque and Klimo provides a further support for calculating a torque of a machine base on a field current and the armature current, which are *two basic elements* for motor and generators.

10. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).



11. In response to applicant's argument that Klimo reference is an improper reference, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

### ***Conclusion***

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

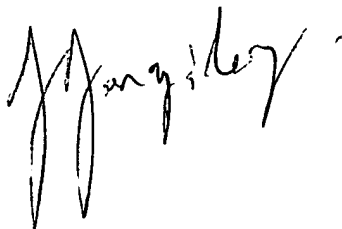
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action.

In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julio C. Gonzalez whose telephone number is 571-272-2024. The examiner can normally be reached on M-F (8AM-5PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on 571-272-2044. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Julio C. Gonzalez  
Examiner  
Art Unit 2834

Jcg

October 28, 2005